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Letters to the Editor

Sir,

Surgery and face masks in Sweden

An important prospective study on the effect of wearing face masks on the surgical infection rate has recently been reported from the Danderyd Hospital, Stockholm.[1] Over 3000 operations of 18 types were included, of which 699 were acute and 2389 were elective. The study was randomized into weeks in which staff were 'masked' or 'unmasked'. Face masks were worn by everyone in the operating room during 1537 operations and not worn during 1551 operations, except on 277 occasions when masks were worn by one or two persons because of a common cold or allergic rhinitis.

The overall infection rate was 4·7% (3·9–5·8%, 95% confidence limits) in the masked group and 3·5% (2·6–4·5%, 95% confidence limits) in the 'unmasked' group. Although the rate was lower in the 'unmasked' group, the difference was not significant. The cost savings of not wearing masks was considerable. Despite this evidence most surgeons will continue to wear a mask as a protection against blood splashes, although there is no evidence as yet that this reduces the risk of infection. Nevertheless, the wearing of masks by other staff in the operating room or suite apart from the operating team could be discontinued.

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References

1. Tunevall Th G. Postoperative wound infections and surgical masks: a controlled study. *World J Surg* 1991; **15**: 383–388.

Sir,

Face masks and postoperative infection

We read with interest the report by Mitchell and Hunt,[1] and the editorial by Ayliffe[2] on the lack of efficacy of surgical face masks in the prevention of postoperative wound infections.

We have been conducting an audit into postoperative wound infections in our hospital and the community for the past 6 months. For the purpose of

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Table I. *Postoperative wound infections*

Surgeon	Number of operations	Number infected	Overall post-operative infection rate (confidence limits)	Post-operative *S. aureus* infection rate (confidence limits)
A*	60	3	5·0% (± 5·62)	3·33% (± 3·84)
B	74	4	5·40% (± 5·25)	2·70% (± 3·76)
C	40	3	7·5% (± 8·32)	7·5% (± 6·18)

* Does not wear masks.

the study we have adapted the Centers for Disease Control[3] definition of postoperative wound infection to include only those infections where there is unequivocal bacteriological evidence of infection in addition to clinical evidence of infection or inflammation. One of the consultant surgeons (A) included in the study does not wear masks while operating. At the present stage of the study we have not observed any difference in the infection rates of this surgeon (A) compared with the other two consultant surgeons (B and C) either in the overall postoperative wound infection rates or, more specifically, in the *Staphylococcus aureus* infection rates (Table I). All the three are general surgeons and perform a similar range of operations (Table II). The policy for antibiotic prophylaxis is essentially the same although the length of duration of the prophylaxis varies between the surgeons.

We appreciate that there are many variables that influence the incidence of postoperative wound infections but our preliminary findings suggest that surgical face masks play a small, if any, role in the prevention of postoperative wound infection. As the study continues, it is hoped that we

Table II. *Range of operations performed by surgeons*

Type of operation	Number performed by surgeon		
	A	B	C
Hernia repair	20	36	6
Breast	6	10	12
Large bowel	13	11	6
Gall bladder	5	2	8
Upper G.I.	4	2	2
Vascular	9	8	2
Miscellaneous	3	5	4
Total	60	74	40

will be in a better position to evaluate the role of the masks more conclusively in the future.

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References

1. Mitchell NJ, Hunt S. Surgical face masks in modern operating rooms—a costly and unnecessary ritual? *J Hosp Infect* 1991; **18**: 239–242.
2. Ayliffe GAJ. Masks in surgery? *J Hosp Infect* 1991; **18**: 165–166.
3. Garner JS, Jarvis WR, Emori TG *et al.* CDC definitions for nosocomial infections 1988. *Am J Infect Control* 1988; **16**: 128–140.

Sir,

Masks in surgery

We read the editorial 'Masks in surgery'[1] and the article by Mitchell and Hunt[2] in the issue for July 1991, with gratification and interest.

It is just 10 years since one of us (NWO) published a paper in the *Annals of the Royal College of Surgeons of England* questioning the value of masks in the theatres. Since that time the four general surgeons and their theatre staff in our hospital rarely wear masks. During that time the Control of Infection Department has carefully monitored all infections associated with routine surgery (i.e. not emergencies or endoscopies) in our care. The yearly throughput during those 10 years averaged 816 operations per year and the wound infection rate remains under 2%. The infections which do occur reflect the operations performed or the patients' condition, and are not related to carriage of organisms by the theatre personnel.

In reply to your suggestion that a controlled trial would be needed to prove the point, I know of no controlled trial that has proved that masks in fact reduce wound infection. We still feel that masks are not necessary for routine general surgery.

N. W. Orr
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References

1. Mitchell, NT, Hunt S. Surgical face masks in modern operating rooms a costly and unnecessary ritual? *J Hosp Infect* 1991; **18**: 239–242.
2. Ayliffe, GAJ. Masks in surgery? *J Hosp Infect* 1991; **18**: 165–166.